

Preliminary Information Sheet

AMICON[®] E 3503-1

One Component, Low Temperature Curing, Thermally Conductive Epoxy Adhesive

Key Feature	Benefit

Product Description :

AMICON E 3503-1 is a one component, low temperature curing, thermally conductive epoxy adhesive developed for use in microelectronic applications. AMICON E 3503-1 contains a non-abrasive, thermo-conductive filler.

Applications :

AMICON E 3503-1 has been especially developed for die attach applications and can be applied by automatic syringe dispensing. It cures at moderate temperatures allowing it to be used on heat sensitive materials.

Instructions For Use :

Please refer to the "Cure Schedule" below.

Properties Of Material As Supplied :

Property	Test Method	Unit	Value
Chemistry			epoxy
Appearance	Visual		off white
Density	ASTM-D-792	g/cm ³	1,20 - 1,25
Viscosity at 25°C	ASTM-D-2393	Pa.s	30 – 40
Filler Content As Supplied	ASTM-D-1579	% by weight	15 – 20

Cure Schedule :

Cure at any of the following schedules :

Note : Cure can be accelerated by using IR cure instead of convection oven cure.

Colour after complete cure : beige.

Cure Temperature (°C)	Cure Time (min)
100	30
120	10
150	5

Properties Of Material After Application :

Property	Test Method	Unit	Value
Hardness	ASTM-D-2240	Shore D	85 minimum
Thermal Conductivity	ASTM-D-2214	W/m.K	0,9 - 1,0
Coefficient Of Linear Thermal Expansion	ASTM-D-3386	10 ⁻⁶ K ⁻¹	55 – 70
Glass Transition Temperature	ASTM-D-3418	°C	70 - 75

Properties Of Material After Application (Continued) :

Property	Test Method	Unit	Value
Tensile Lap Shear Strength	ASTM-D-1002	MPa	8 minimum
Hegman Fineness	TP-19	microns	20
Die Shear Strength On 1,27 x 1,27 mm Die	TP-102	kg	2,0 minimum
Extractable Ionic Content			
Cl ⁻	TP-91	ppm	100 maximum
Na ⁺	TP-91	ppm	10 maximum
K ⁺	TP-91	ppm	10 maximum
NH ₄ ⁺	TP-91	ppm	75 maximum
Stroke Cure At 160°C	TP-12	s	8 - 12

Storage And Handling :

Store AMICON E 3503-1 in well-sealed, closed containers at temperatures between -18°C and -25°C to maintain viscosity. Allow container to reach room temperature before opening.

Storage Temperature (°C)	Usable Shelf Life (months)
-18 to -25	6

Health & Safety :

It is recommended to consult the Emerson & Cuming product literature, including material safety data sheets, prior to using Emerson & Cuming products. These may be obtained from your local sales office.

Attention Specification Writers :

The technical information contained herein is consistent with the properties of the material and should not be used in the preparation of specifications, as it is intended for reference only. For assistance in preparing specifications, please contact your local Emerson & Cuming office for details. Please contact Emerson & Cuming Quality Assurance for test method details.

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